SANTA CRUZ BIOTECHNOLOGY, INC.

MAP-2 (AP20): sc-32791

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Microtubules, the primary component of the the cytoskeletal network, interact with proteins called microtubule-associated proteins (MAPs). The microtubule-associated proteins can be divided into two groups, structural and dynamic. The structural microtubule associated proteins MAP-1A, -1B and -2 function to stimulate Tubulin assembly, enhance microtubule stability and influence the spatial distribution of microtubules within cells. Both MAP-1 and, to a greater extent, MAP-2 have been implicated as agents of microtubule depolymerization by suppressing the dynamic instability of the microtubules. The suppression of microtubule dynamic instability by the MAP proteins is thought to be associated with phosphorylation of the MAPs.

CHROMOSOMAL LOCATION

Genetic locus: MAP2 (human) mapping to 2q34; Map2 (mouse) mapping to 1 C3.

SOURCE

MAP-2 (AP20) is a mouse monoclonal antibody raised against an epitope mapping between amino acids 997-1332 of MAP-2 of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAP-2 (AP20) is available conjugated to agarose (sc-32791 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-32791 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32791 PE), fluorescein (sc-32791 FITC), Alexa Fluor® 488 (sc-32791 AF488), Alexa Fluor® 546 (sc-32791 AF546), Alexa Fluor® 594 (sc-32791 AF594) or Alexa Fluor® 647 (sc-32791 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32791 AF680) or Alexa Fluor® 790 (sc-32791 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MAP-2 (AP20) is recommended for detection of MAP-2A and MAP-2B of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with MAP-2C, MAP-1, MAP-5, Tubulin or Tau.

MAP-2 (AP20) is also recommended for detection of MAP-2A and MAP-2B in additional species, including bovine.

Suitable for use as control antibody for MAP-2 siRNA (h): sc-35853, MAP-2 siRNA (m): sc-35854, MAP-2 shRNA Plasmid (h): sc-35853-SH, MAP-2 shRNA Plasmid (m): sc-35854-SH, MAP-2 shRNA (h) Lentiviral Particles: sc-35853-V and MAP-2 shRNA (m) Lentiviral Particles: sc-35854-V.

Molecular Weight of MAP-2: 280 kDa.

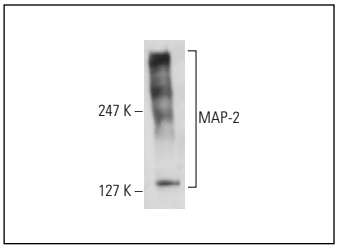
Molecular Weight of MAP-2 low molecular weight isoform: 70 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or SK-N-SH cell lysate: sc-2410.

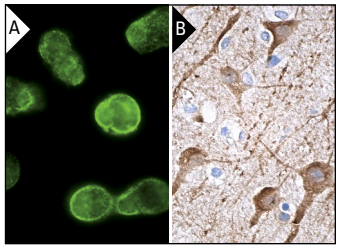
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MAP-2 (AP20): sc-32791. Western blot analysis of MAP-2 expression in IMR-32 whole cell lysate.



MAP-2 (AP20): sc-32791. Immunofluorescence staining of methanol-fixed T98G cells showing cytoskeletal localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing neuropil and cytoplasmic staining of neuronal cells (**B**).

SELECT PRODUCT CITATIONS

1. Gómez-Nicola, D., et al. 2008. Interleukin 15 expression in the CNS: blockade of its activity prevents glial activation after an inflammatory injury. Glia 56: 494-505.
2. Martí, M., et al. 2013. Characterization of pluripotent stem cells. Nat. Protoc. 8: 223-253.
3. Tang, H., et al. 2013. Progesterone and vitamin D: improvement after traumatic brain injury in middle-aged rats. Horm. Behav. 64: 527-538.
4. Liu, Z., et al. 2014. Hepatitis C virus (HCV) interaction with astrocytes: nonproductive infection and induction of IL-18. J. Neurovirol. 20: 278-293.
5. Kim, B.J., et al. 2015. Effects of paracrine factors on CD24 expression and neural differentiation of male germline stem cells. Int. J. Mol. Med. 36: 255-262.
6. Mao, Y., et al. 2016. Targeting TEAD/YAP-transcription-dependent necrosis, TRIAD, ameliorates Huntington's disease pathology. Hum. Mol. Genet. 25: 4749-4770.
7. Yamanishi, E., et al. 2017. A novel form of necrosis, TRIAD, occurs in human Huntington's disease. Acta Neuropathol. Commun. 5: 19.
8. Hirota, Y., et al. 2018. ApoER2 controls not only neuronal migration in the intermediate zone but also termination of migration in the developing cerebral cortex. Cereb. Cortex 28: 223-235.
9. Men, Y., et al. 2019. Exosome reporter mice reveal the involvement of exosomes in mediating neuron to astroglia communication in the CNS. Nat. Commun. 10: 4136.
10. Adachi, C., et al. 2019. Sonic hedgehog enhances calcium oscillations in hippocampal astrocytes. J. Biol. Chem. 294: 16034-16048.

RESEARCH USE

For research use only, not for use in diagnostic procedures.